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Andrew Brian Cundy

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EXAMINER

PHASGE, ARUN S

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

11/30/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 1-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-25 and new claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shapiro in view of Ho of record for reasons of record.

With regard to the new claims 26, and 27, The Shapiro patent discloses an electro kinetic method for at least one of ground water protection, soil remediation or soil engineering which comprises applying an electric field between iron-rich sacrificial electrodes, which are implanted in an area of water-bearing soil, sediment or slurry, wherein no conditioning solutions are added to the soil during performance of the

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method, wherein the conditioning solutions are read as potentially toxic solutions (see claims 1-19). Furthermore, routine testing to determine the effectiveness of the process would read upon the excavation of the soil as claimed in claim 27.

The Shapiro patent fails to disclose that when an electric field is applied to iron electrodes, it generates an abrupt pH and Eh gradient from acid to alkaline conditions; and precipitating at least one of zero valent iron or an iron oxide to form a stable iron band occurring at the boundary between the acid and alkaline zones.

The patent does disclose that some of the iron ions are "absorbed" in the contaminated media, which appears to read on the above limitation (see col. 4, lines 62-65). The '140 patent is cited to show that the application of an electric field to electrodes within soil would inherently cause the "abrupt pH and Eh gradient" as claimed (see col. 3, lines 13-31, in particular lines 21-26). This change in pH inherently causes the precipitation of "heavy metals" which would cause the formation of the stable iron containing band claimed (see col. 3, lines 21-26). The formation of the band of precipitated metals blocks the flow of water, which would read upon the trapping of contaminants in the soil as claimed (see col. 3, lines 24-26). The reference further teaches that the electrokinetics dewater soil (see col. 3, lines 29-31).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shapiro by the teachings of Ho.

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One having ordinary skill in the art would have been motivated to do this modification, because Ho teaches that electrokinetics inherently produces the effects of dewatering, containment of contaminants, abrupt pH gradient and the precipitation of heavy metals into soil.

Response to Arguments

Applicant's arguments filed 8/4/09 have been fully considered but they are not persuasive.

Applicants argue that the phrase "potentially toxic" would allow one having ordinary skill in the art to read that no conditioning solutions are an advantage of the invention. It is unclear to the examiner how this phrase would produce such an understanding.

Accordingly, the rejection of the claims is maintained.

Applicants further argue that the Shapiro patent adds conditioning agents, which is not required in the present claims. The additions of Shapiro are not toxic. And therefore would not be conditioning agents as recited in the claims.

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Applicants further argue that the Ho patent is a teaching away, because it teaches exactly what occurs during electrokinetic treatment of groundwater.

The Ho patent does not teach away, rather it discloses what inherently occurs during electrokinetic treatment of groundwater. Furthermore, it is not an obvious to try type rationale, rather it is what occurs when the electric field is applied to groundwater.

Consequently, since the Ho patent disclose the mechanisms by which electrokinetic treatment of groundwater occurs, the claimed invention as a whole would have been obvious to one having ordinary skill in the art.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun S. Phasge whose telephone number is (571) 272-1345. The examiner can normally be reached on MONDAY-THURSDAY, 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Arun S. Phasge/

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